

REMARKS

Applicants have now had an opportunity to carefully consider the Examiner's comments set forth in the Office Action of November 26, 2008. All of the Examiner's objections and rejections are responded to herein. Reexamination and reconsideration of the application is requested.

In The Office Action

Claims 11, 12, and 15-21 remain in the pending application after this Amendment. Claim 1-10 have been withdrawn.

The specification is objected to for failing to make reference to the international application of which this application is the national stage filing.

Claims 11-21 are rejected under 35 U.S.C. 112, second paragraph, for being indefinite.

Claims 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2,414,135 to Berlowitz taken in view of either US 4,002,040 to Munters et. al. or US 4,910,971 to McNab.

Objection to the Specification for Failure to make Reference to the International Application is No Longer Necessary

The Examiner objected to the specification for not having a proper statement indicating the basis for the claim of priority and relationship of the applications at the beginning of the specification. In response, Applicants have amended the specification (as indicated on page 2 of this Amendment) to incorporate such a statement consistent with the Examiner's instructions. (Item 3 of the Office Action).

Claims 11, 12, and 15-21 are No Longer Indefinite

The Examiner rejected claims 11-13 under 35 U.S.C. 112, second paragraph, as being indefinite for the use of the term "may be." Accordingly, Applicants have deleted this term from currently amended claims 11 and 12 and have cancelled claim 13. (Item 5 of the Office Action). In addition, the Examiner rejected claims 15-17, 19, and 20 under the same basis for being recited in process claim format. Claims 15-17, 19 and

20 have now been amended to recite specific structure.

Claims 11, 12, and 15-21 are Not Rendered Obvious by Berlowitz
in view of either Munters or McNab

With respect to the Examiner's obviousness rejection of claims 11-21 (item 8 of the Office Action) based on Berlowitz taken in view of either Munters or McNab, Applicants respectfully disagree. First, Berlowitz discloses an arrangement for the cooling of gases or liquids. This arrangement comprises a dry cooling stage 1 and a wet cooling stage 2 and intends to cool the air contained in an enclosure. For this purpose, air is drawn off from the enclosure and mixed with outside air, before the air mixture flows through the dry cooling stage 1 and then through the wet cooling stage 2. Inside the wet cooling stage 2, water is sprayed into the wet cooling stage 2 so that the air mixture is in direct contact with the water (a part of the air mixture will be returned to the enclosure). The air mixture leaving the wet cooling stage 2 at an outlet 7 is saturated with moisture and is cooled. One third of the cooled air enters the enclosure to be cooled through a duct 101. The remaining part of the air mixture (two thirds) is conducted through the duct 10 to the dry cooling stage 1 in order to pre-cool the air drawn off from the enclosure, and is discharged from the dry cooling stage 1 into the open air.

It is respectfully submitted that Berlowitz does not disclose, suggest or make obvious Applicants' invention. In particular, the arrangement and the conduction of the air stream(s) are not comparable to the apparatus of the present invention. According to Berlowitz, the air to be cooled constitutes one single air stream. After cooling of the air stream, a part of the cooled air stream is returned to the enclosure, whereas the remaining part is used as a cooling medium of the dry cooling stage before the remaining part is exhausted into the open air. By contrast, and according to the present invention, process air and circulating air constitute two separate air streams passing through the apparatus in separated (closed) cycles/loops during cooling. A heat exchange between the process air and the circulating air is performed inside a first heat exchanger device in order to cool both air streams, wherein water is introduced into the process air before its entry into the first heat exchanger device, thereby cooling the

process air. The cooled process air leaving the first heat exchanger device is conducted to a second heat exchanger device serving for a heat exchange between the process air conducted to the first heat exchanger device and the process air leaving the first heat exchanger device.

Accordingly, currently amended claim 11 defines over Berlowitz in any combination with either Munters et. al. or McNab. Particularly, since such a combination does not teach a second heat exchanger for heat exchange between uncooled process air before its entry into the first heat exchanger device and the cooled process air after its discharge from the first heat exchanger device. Such second heat exchanger causes the cooled process air to have a temperature, which is below the temperature of the uncooled process air. It can thus absorb heat from the uncooled process air so that its temperature decreases. The adiabatic cooling thus acts on process air, whose temperature has already been reduced.

Moreover, the apparatus as defined by the currently amended claims, performs a sensitive thermodynamic process, so that a pure multiplication and/or combination and/or substitution of elements of known apparatuses according to the state of the art, does not lead one of ordinary skill in the art to arrive at the subject-matter of currently amended claim 11.

Munters et al. discloses an apparatus for the conditioning of an air stream. As shown in Figs. 1-3, one stream of atmospheric air is divided into a stream of air 30 to be conditioned in a heat exchanger 10 and an auxiliary stream of air 32. The air stream 30 to be conditioned flows through a first group of channels while the auxiliary stream of air 32 flows through a second group of channels, the walls of which comprise wettable material 22 maintained wet by means of water which is caused to evaporate by the auxiliary air stream to result in cooling.

McNab discloses an indirect air conditioning system, which utilizes the exhaust air from a conditioned space 20 for conditioning of the supply air to the conditioned space 20. After conditioning, the exhaust air from the conditioned space 20 is discharged to the atmosphere. Contrary thereto, according to the present invention, the circulating air is cooled and flows back to the conditioned space.

Nevertheless, neither Munters et al. nor McNab suggest a combination with

Berlowitz (US 2,414,135), or suggest the feature of a second heat exchanger for heat exchange between uncooled process air before its entry into the first heat exchanger device and the cooled process air after its discharge from the first heat exchanger device.

Therefore, the subject-matter of currently amended claim 11 is not rendered obvious by Berlowitz by way of any combination with Munters or McNab. Moreover, dependent claims 12 and 15-21, which merely further patentably define the detailed subject matter of their parent claim, or each other, are also not rendered obvious over the applied combination of references.

As such, all remaining claims are believed to patentably define over the cited references, in any combination. Prompt and favorable examination of pending claims 11, 12, and 15-21 is therefore respectfully requested.

CONCLUSION

For the reasons detailed above, it is respectfully submitted all claims remaining in the application claims (11, 12 and 15-21) are in condition for allowance. It is submitted that the foregoing comments do not require unnecessary additional search or examination.

No fees are believed to be due by way of this Amendment. However, if a fee is due, the undersigned attorney of record hereby authorizes the charging of any such fee(s), except for the issue fee, to Deposit Account No. 06-0308.

In the event, the Examiner considers personal contact advantageous to the disposition of this case, he is encouraged to call the undersigned at the phone number listed below.

Respectfully submitted,

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